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THE MAGAZINE OF CORPORATE MANAGEMENT

# Business MONTH

MAY 1990 $3.00

## Look, Ma No Hands

The Calculated Climb Of a Fast-Growth CEO

The Fast 100: Secrets Of the Hottest Companies

## Science Gone Awry

Was Amgen the Victim Of Test-Tube Robbery?

## Life After Junk

Has Wall Street Whipped You? Take the FaxPoll

JAMES MORGAN OF APPLIED MATERIALS

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### Secrets of the Fast 100

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Cover Photograph: David Diehl

customer confidence you must not be afraid to take chances; fear of negative comments based on the quarterly return can lead to conservative behavior (translate that to mediocrity).

IRA WALLIS
*Western Wallis, Purveyor of Polymers*
*Manhattan Beach, California*

## APPLE BLOSSOMS

JAMES KAPLAN MISSED THE POINT AS TO what is happening at Apple ("Rethinking the Feel-Good Manager," March). Companies predictably go through various stages of development—the first of which is the entrepreneurial stage (Apple under Jobs and Wozniak). In this stage, devotion, dedication, and, hopefully, growth are high. If a company succeeds (and Apple certainly did) and subsequently grows, it is inevitable that the entrepreneurial spirit is not enough to support this increase in size. Thus a more complex management organization is required. This is where Apple is now. None of this means that it was the "feel-good" management that caused the current problems, that this management style does not work, or that it is a failure. It only means that the organization must adapt to current size and goals.

FRED CASIELLO
*Peabody Engineering*
*Stamford, Connecticut*

## TALKING TRASH

IN RESPONSE TO YOUR APRIL FAXPOLL Feedback on pollution: If you want to stop industrial pollution, you have to show how to make a profit out of waste. Penalties or fines don't prevent pollution; the cost is just passed on to the consumers and business still earns a profit. Legal suits don't prevent pollution; they just make lawyers rich, and the cost again is passed down to the consumer.

To stop pollution, the Government has to provide tax incentives to industries that develop certifiable methods of recycling waste. It can replace the revenue lost through the incentives with special taxes on commodities that cause environmental pollution. In this way consumers would pay for the waste they create and business would have an incentive to produce products that are cheaper and environmentally cleaner.

BOB ROBINSON
*Streamwood, Illinois*

## TAKING ISSUE WITH IDIOTS

YOU ARE RIGHT IN YOUR MARCH FAXPOLL ("Are You Surrounded by Idiots") to focus on the problem of illiteracy in the workplace. You are right to poll your readership to try to get a fix on how businesses are feeling about the problem and responding to it. But you are *wrong, wrong, wrong* to characterize adult nonreaders or low-level readers as idiots. They're *not* idiots; they are—"more exactly," in your words—unschooled, undereducated, unskilled.

One of the major reasons adults hide and don't come forward to participate in literacy programs is exactly because they fear they will be viewed as stupid, as idiots. Employers with that attitude will never be able to create an atmosphere in the workplace that gives the low-skilled workers the freedom to come forward and get help.

NANCY OAKLEY
*Director, Project Learn*
*Interchurch Council of Greater Cleveland*
*Cleveland*

## HAIL TO THE COACH

YOUR ARTICLE "FIT TO BE BOSS? CALL Your Head Coach" (Up the Ladder, March) is one ill-informed reporter's purely personal opinions about a profession and an outstanding practitioner.

I am a market researcher. When my business ran into problems in 1989, I personally researched the career-advisory services based in Manhattan. No firm or individual had the track record, expertise, and work in valid testing that Dee Soder's Endymion had. Nor would any firm deliver as well on its promise to provide you with sound business-based guidance that fits you and your personal situation.

Dr. Soder has helped me personally and professionally for eight months now. She has taught me to understand myself better and to approach situations with new and constructive insights.

ELLEN SILLS-LEVY
*Marketing director*
Connoisseur *magazine*
*New York*

*Address letters to Letters Editor,* BUSINESS MONTH, *488 Madison Avenue, New York, NY 10022. Or fax 1-800-766-7655. All letters must include the writer's name, address, and telephone number.*

# A Poo

*Are you really resigned to an illiterate work force? Incredibly, that seems to be your attitude toward the disease that is slowly killing your companies' ability to compete and satisfy customers. Wrote one brazen executive: "Education is not the job of corporations."*

"WE DON'T. We've given up," one reader wrote. Indeed, only 26% of you say you're either conducting on-site classes or paying employees to complete high school. More than one-third claim to be simplifying existing jobs—a legitimate approach to manufacturing errors but questionable when it comes to poor customer service. "We're officially ignoring the problem," moaned a subscriber, echoing the 21% whose companies are doing nothing about illiteracy. Then there were the 11% who suggested firing the undereducated or hiring only the strictly qualified. Good luck.

# Report Card

**27%** reject more than half of all entry-level candidates

LOUSY CUSTOMER SERVICE (36% of you claim), manufacturing errors (21%), and high training costs (11%). One reader linked all the symptoms: "Manufacturing mistakes lead to quality-control problems, resulting in late delivery; and such poor customer service leads to higher cost of sales."

"PRAYER," suggested one reader. "Move to Switzerland," quipped another. The shocking fact is that most of you don't really want to get involved. Sure, 50% advocate donating money and lobbying the Government to spend more on education. While many railed against the education system, a mere 23% are willing to help schools plan curricula.

MISERABLE writing skills are rampant at your companies, say nearly two-thirds of you. Next on your gripe list: employees who can't communicate with customers (33%); poor abilities in math (27%); and reading skills (26%). (The totals exceed 100%, since many checked off more than one response.)

## FaxPoll

### ARE YOU SURROUNDED BY IDIOTS?

1. What percentage of entry-level candidates do you reject because they lack basic skills (the three Rs)?
2. In what ways do weaknesses in basic skills show up within your work force?
3. How are you dealing today with illiteracy at your company?
4. How high up your organization do you find educational handicaps?
5. Among managers, where do you see the most serious shortcomings?
6. How do entry-level deficiencies hurt you most?
7. What's the best way for corporations to improve worker literacy over the long term?

INCOMPETENT leaders are everywhere. Nine out of 10 of you report educational deficiencies among supervisors (22%), department managers (36%), or VPs and above (30%). To prove his point, a reader sent a one-page internal memo from on high—with no fewer than 14 errors .

### MANAGEMENT'S SHORTCOMINGS

| 47% | 32% | 31% | 21% |
|---|---|---|---|
| WRITING MEMOS OR REPORTS | SOLVING COMPLEX PROBLEMS | COMMUNICATING WITH SUPERIORS | ANALYZING STATISTICAL DATA |

**APRIL PREVIEW**

### OH, BOY...

Are you a ladies' man? It's a question we almost wish we'd never asked—except that your responses are setting a FaxPoll record. Listen to outraged women readers: "What is this sexist crap?" "Disgusting!" "Do you assume only men read your publication?" Fact is, 94% of our audience is male (which says a lot about corporate America today), and we wanted to let them respond to our special report, "Women on the Verge of Becoming CEO." We also felt the questions were of interest to both men and women. Example: Nearly half of you think the number of women in upper-level management is pitifully small. Next month, a full report on the battle of the sexes. Meanwhile, has Wall Street whipped you? Turn to page 84.

# THE LIFE AND TIMES OF A FAST-GROWTH CEO

*For James Morgan, it's simply a matter of vision.*

BY JOHN SEDGWICK

THE FIRST TIME JAMES MORGAN TOOK charge he was 13 years old. He spent that summer supervising the field hands who picked beans and corn for the family's cannery in the tiny farming town of Cayuga, Indiana. He was a surprisingly good boss for someone so young. So good, in fact, that at 16, he moved into the cannery itself as foreman, with considerable power over the company's 350 employees, nearly all of them significantly older than he was. He decided on his life's ambition that year. "I wanted to run something," he recalls. At the time, he had never heard the term chief executive officer.

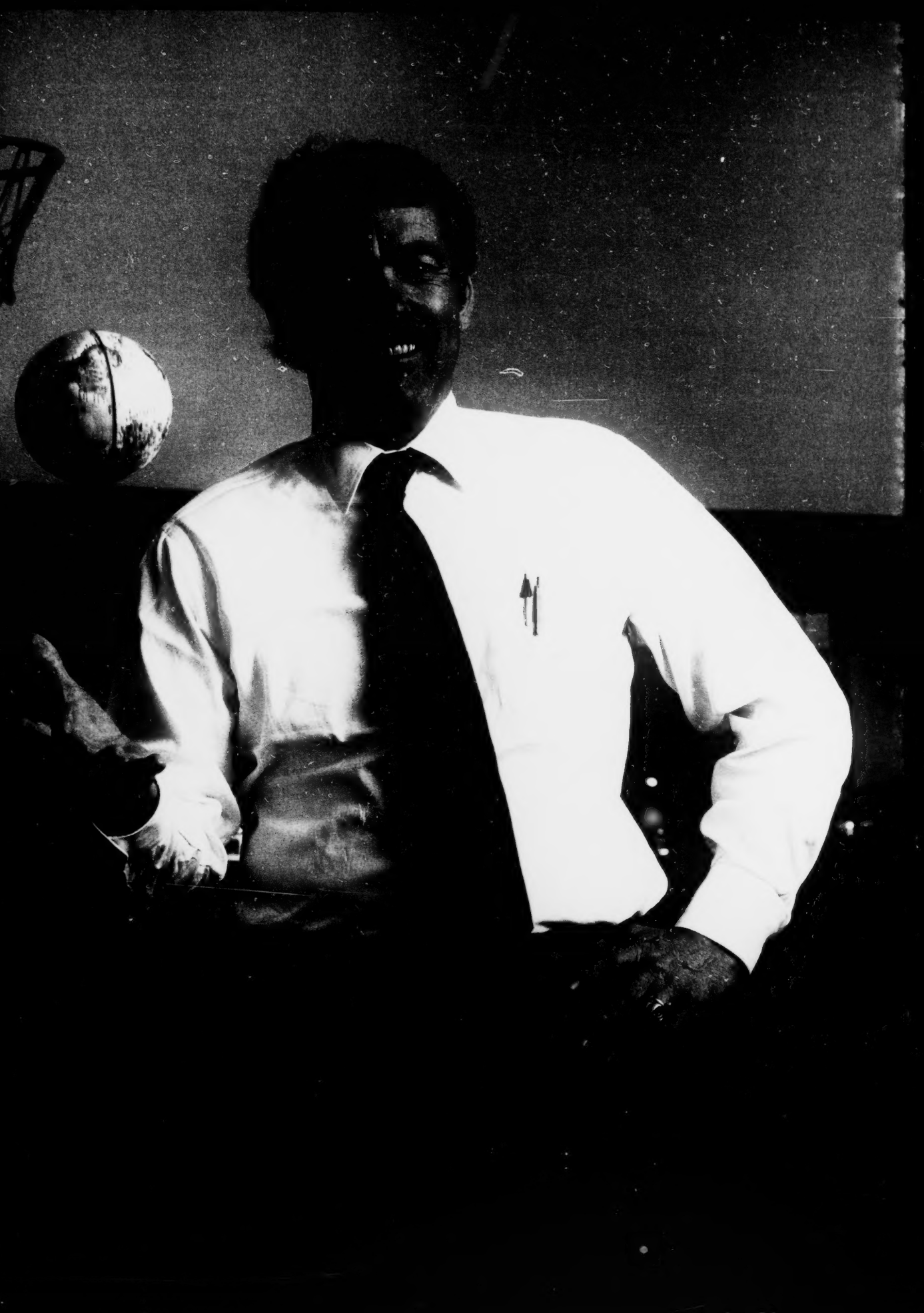
At 21, he interrupted his studies at Cornell University and returned to Cayuga to take over the entire operation from his father, but he soon realized that a small cannery had no future. Large agribusiness corporations like Green Giant and Del Monte were squeezing out the smaller operations. Family is family, but business is business, so, much to the dismay of his grandfather, who had founded Morgan Cannery in 1912, he decided to move on. He didn't just want to run something, he wanted to run something big.

Today, the Morgan Cannery is out of business, and James Morgan is the CEO of Applied Materials, a $500 million semiconductor-equipment manufacturer in Santa Clara, California. It's not a *Fortune* 500 company—yet—but it is one of the fastest growing in America, and Jim Morgan made it so. The same single-mindedness and self-confidence that enabled a 16-year-old boy to supervise a cannery has transformed the once-fledgling Applied into a leader in its industry.

Self-confidence is not a trait one would expect to find in short supply among CEOs, but it is especially critical in running fast-growing companies, which must be able to move quickly to stay alive. Morgan's self-confidence and sense of mission border on the messianic. To his way of thinking, building a company is simply a matter of vision, of



PHOTOGRAPH BY GEORGE LANGE



being able to look into the future. Not that he has a crystal ball, but he does have a pretty good feel for the prevailing trends. More important, he has an uncanny ability to persuade others of his insights. It's not magic, then, but a kind of power—the power of belief—that makes Morgan what he is. Believing something makes it so.

All this steely-eyed confidence might be hard to take if it weren't cloaked in Morgan's hang-loose, Midwestern style. He moves with a Great Plains lankiness, and he speaks with a Hoosier farm boy's twang. Listen, for example, as he explains his philosophy on making decisions: "My style is to push my people till they make 'em themselves. If finally they can't, I'm always willin' to do it for 'em. I'm never afraid to make a decision. Kinda goes with the territory." The way he says all this, it comes off as more matter-of-fact than cocky, but underneath, there's not an iota of doubt about the outcome.

*By the time he was 29, Morgan was running two divisions of Textron, with 1,600 people under his command.*

Nor was there about the outcome of the decision taken by that teenage boy in Indiana in 1954. The road from the farm to Applied has been, for the most part, straight and narrow. Knowing that he wanted to get on the college track, Morgan went to a prep school, although not a particularly elite one, called Mercersberg Academy, in Pennsylvania. Then in 1962 he took an undergraduate engineering degree and, in 1963, an MBA—both from Cornell.

While in college, he joined the ROTC program to make sure that he didn't get sent to Vietnam as an Army private when he graduated. He also got lucky. He was still in basic training at the Aberdeen Proving Grounds in Maryland when he happened to hear that a position was opening up in the matériel command for a kind of management consultant to evaluate the Army as a business proposition. It was the perfect job for a proto-CEO, and Morgan went right for it. One of the companies he used as a model for the Army was Textron, which rewarded Morgan's attention by giving him a job as soon as his military hitch was up. By age 29, he was running two divisions of the company, with 1,600 people under his command.

Five years later, a couple of his Cornell chums helped set him up as a partner in a San Francisco venture-capital firm called WestVen. He wanted the position because he had the peculiar idea of using it as a springboard into a chief-executive suite. This is not the normal route to the top. As a rule, a new CEO is drawn from the senior-executive ranks within the company. Only failing companies look elsewhere, but even they reserve for themselves the privilege of conducting the search, generally through a committee drawn from the board of directors. Thus, would-be CEOs customarily await their fate like U.S. vice-presidential candidates or old-fashioned Southern belles—they make sure their names are out there, and then they wait for the phone to ring.

Morgan reviewed hundreds of companies while at WestVen and finally narrowed the list to three, one of which was Applied Materials. At first glance, Applied certainly didn't seem like a winner. In all-too-typical Silicon Valley style, it had been founded in 1967 by an entrepreneur, Michael McNeilly, who had far more skill at starting a company than at managing one. Within 10 years, he had run it practically into the ground. By the tail end of the 1974-1975 recession, after a whirlwind diversification process in which Applied bought into a semiconductor-wafer manufacturer called Galamar Industries and entered into a silicon-manufacturing coventure with Fairchild Camera, sales had dropped 45 percent and the company was dangerously overextended.

Even in the best of times, semiconductor-equipment manufacturing is a nerve-racking industry to be in. The technology alone is mind-boggling, with its thousands of parts all crafted to such microscopic tolerances that a speck of dust looms like a boulder on the highway. And every product line has to be completely overhauled every three years. One veteran Wall Street analyst says the technology gives him the chills.

In fact, so much time and effort goes into a few, extremely specialized products that even the largest firms ship only a few hundred every year, most of them completely customized, to a few dozen customers worldwide. The competition for those customers is fierce: Lose two or three and that's the ball game. Large, apparently well-established firms such as Fairchild, Mostek, or Perkin-Elmer could and did disappear from the industry practically overnight.

And that's only the beginning. The most frightening aspect of the business is its horrendous cyclicity. At the retail level, the computer industry, of course, is hardly a steady state, but every tremor is magnified as it passes back up the daisy chain to the companies that make the machinery that produces the chips that run the computers. It creates a frightful whiplash at the end. "The semiconductor-equipment industry has ups and downs like you've never seen ups and downs before," says Stephen Balog, an analyst for Shearson, Lehman, Hutton. "One week you have Motorola screaming at you, 'Faster! Faster! We need those machines today!' Then the next week, they say, 'Oh, about that order, I think we'll hold off for a few months.' The business is a real bitch."

Morgan was unfazed by any of this. He figured that so long as Applied was still alive, he could restore it to health. He regarded the industry itself as a welcome challenge, and the company's own woes were, if anything, providential: They meant Applied would consider offering the top job to a 38-year-old outsider. (Actually, while McNeilly endorsed Morgan, the board of directors was put off by his lack of experience. It preferred to start him as vice president of operations. But Morgan just waited for the situation to deteriorate a little more, and Applied came around.) In 1976, Applied's board named Morgan chief executive officer; McNeilly would remain as chairman. It wasn't until 1978 that McNeilly resigned and Morgan was given that title as well.

The new chief wasted little time making sweeping changes. He dumped the sideline ventures and stripped the company back to the basics of semiconductor-equipment manufacturing. "That part was still losin' money," he notes, "but it wasn't losin' as much." Then he went to have a little talk with Applied's major lender, the Bank of America, which was worried about its $4 million loan to an obviously troubled operation.

It just so happened that the Bank of America had been WestVen's financier and had acted as an informal go-between in securing Morgan the CEO job, so he was confident that the bank—looking to protect its $4 million—was in effect his partner in the campaign to raise Applied from the dead. He was right; there was little resistance to his suggestion that it might be best for everyone if the bank, instead of calling in its loan, doubled Applied's line of credit.

# Speed With Stamina: The Best of the Fastest

TWO HIGH SCHOOL KIDS GROW UP TOgether. Really grow. Each hits six feet, nine inches and goes to college on a basketball scholarship. Then their paths diverge. One works on his dribbling and passing and ends up in the pros. The other, getting by solely on his height, becomes a bench warmer.

So it is with corporations. Many pile up impressive sales gains; only an elite few develop into solid, all-around, enduring companies—good enough to make BUSINESS MONTH's list of top-10 growth companies.

How were they picked? By definition, a growth company's sales are rising at a rapid clip. Our 10, then, had to be one of the American companies with the hottest sales growth (page 45). But we were biased in favor of internal sales gains. Acquired growth often brings serious, unexpected problems. So Maxxam Inc., the fastest-growing company based strictly on sales over the last four years, is not among our top 10. It is a recently built conglomerate mix of lumber, aluminum, and real estate that hasn't proved its staying power.

A real growth company also sports rapid profit growth. We factored that in along with a company's return on investment and its debt load. To make the list, a company also had to reach a size that will help it survive when trouble erupts. Finally, we considered a company's competitive position and its momentum.

The last two factors put Microsoft at the top of the list by the slightest of margins over Compaq Computer. Microsoft has become more and more dominant among the independent companies in the computer-software field, and its sales and profits continue to climb without interruption. Compaq faces severe competition in the personal-computer market—though to be fair, it always has—and its enviable growth record has stalled recently. Another small edge for Microsoft: It has no long-term debt.

It's no surprise that half of the top 10 are in computers. Sun Microsystems (see story page 42) makes workstations; Stratus Computer, "fail tolerant" systems of paired computers; 3Com Corp., local area networks. But three others—Reebok, Home Depot (do-it-yourself building materials), and Costco Wholesale (members-only outlets for consumer goods)—are in far more prosaic businesses. One of the best of the lot, JWP, Inc., simply installs and repairs electrical and mechanical systems for offices.

This is a very selective list. We had to go almost halfway down the table of 100 fastest growers by sales to come up with the 10 best companies overall. Corporations with very impressive numbers didn't make it. Seagate Technology, the disk-drive manufacturer, was one. Its overall growth rates mask the fact that its profits fell to practically nothing in the year ended last June. Genentech was a candidate until it decided to sell a controlling interest to Roche Holding Ltd., indicating an inability to survive on its own. Lewis Galoob Toys was pretty small and basically a one-product outfit in a fickle business.

One company that was hard to leave off the list for sentimental reasons was that great old name, M.A. Hanna (story page 43). But Hanna's resurrection sprang from acquisitions—and rules are rules.

For the record, JWP and Sun Microsystems had by far the best sales growth of our top 10; Home Depot and Compaq Computer had a similar lead in profit growth. Microsoft and Compaq had the best return on their shareholders' investment.

Only history will tell if these 10 companies are as good as we say they are. Nobody on the list has a divine right to success. Some of the winners have piled up potentially troublesome debt burdens: JWP, Sun Microsystems, and International Lease Finance, which buys modern jet planes and leases them to airlines.

Reebok has to keep trying to outleap Michael Jordan. Home Depot and Costco confront tightfisted shoppers. All eyes are on Compaq as it tries to recover from the first serious setback in its short history. Stratus Computer and 3Com have reached something of a critical mass but could still be steamrollered by giant corporations; 3Com right now is trying to regain lost momentum.

But meeting competitive challenges head-on is what made these companies the best.

**THE TOP TEN**

Microsoft Corp

Compaq Computer

JWP Inc

Sun Microsystems

Home Depot

Reebok International

Stratus Computer

Int'l Lease Finance

3Com Corp

Costco Wholesale

That done, Morgan announced what was undoubtedly the biggest surprise of all. The company was going to invade Japan. His first foray was a joint venture in 1979, only three years after he had taken over a company on the verge of financial collapse. Six more years, and Applied Materials Japan opened a plant next to Tokyo International Airport. One-third of the initial capital came from the Japanese Development Bank, an agency of the Japanese Government, its first cash loan to an American firm.

In hindsight, of course, this move seems perfectly obvious, since so many of the customers for Applied's chip-manufacturing equipment are now Japanese. At the time, however, Japan was not at all a major player in the semiconductor industry. Most of the companies that Applied was selling to were American, so it made better sense to stay put. At least, that's what all of the company's domestic competitors were doing. But Morgan could see that the big U.S. electronics companies—IBM and Texas Instruments, for example—were already established in Japan, and he figured it would pay to be the first in his industry to make the move. "I've always believed in being early into

new markets and new products," he says, "because people appreciate you when you're early. Somebody coming late is just another guy trying to make a buck."

That was probably the most testing time for Morgan, but to judge by the results, he came through pretty well. Currently, Applied derives 45 percent of its sales from Japan, almost three times the industry average, and it actually outsells the Japanese in their own country in three out of four product areas. It has moved into Western Europe, Korea, and Taiwan as well. In going global, Morgan managed to leapfrog ahead of the competition into what would be the hottest growth markets. He also achieved the necessary scale for funding the world-class research and development and field service and sales operations that have proved critical to Applied's growth. Globalization, in short, gave him important leverage. "That's the company's genius right there," says Balog.

THINGS WERE BEGINNING TO SETTLE DOWN WHEN THE inevitable recession descended on the industry in 1985. Morgan always saw such slow times as an opportunity to push R&D, and when this one hit, Applied was already trying to develop a machine that could manufacture a more reliable wafer faster. Now the project could move ahead quickly. But there were different schools of thought within the company on the best technology. The marketing chief, Robert Graham, wanted to invest in a system designed to crank out batches of chips 25 at a time. Others thought the future lay in a superfast, one-at-a-time, multiple-chamber system. The batch technology existed; the other was a dream. For a growing company like Applied, there was no room for error. Morgan had to bet the company on one or the other, and emotions on both sides were high. But, as Morgan dryly notes, "I didn't do a poll."

The decision came down to short term versus long term. The batch system was for the present; the multiple-chamber approach was for the future, since it allowed the production of customized recipes for individual wafers, and that appeared to be the emerging need among chip manufacturers. The answer was obvious: Morgan chose the future.

*'I have never thought of asking the board of directors what to do. My job is to tell them what the right thing to do is.'*

Now the only question was whether his technicians could produce such a thing. Despite the industry recession, he jammed down the accelerator on R&D spending, pushing Applied's expenditures to number four in the whole electronics industry as a percentage of sales. The result was the hot-selling Precision 5000 series, which pioneered the multiple-chamber process. It has been praised by the semiconductor-equipment manufacturers' trade organization, VLSI, as the most successful piece of capital equipment ever produced in the industry.

Graham was keenly disappointed with Morgan's decision. Then in 1986, when he was passed over for company president in favor of Jim Bagley, Graham left to head up a new company called Novellus Systems based on the batch technology he had tried and failed to press on Morgan. Now Novellus is nipping at Applied's heels, occasionally lapping up a major order that Applied would have liked, but Morgan betrays no resentment over the development. "That was a fair deal," he says in only slightly begrudging tones. "Bob's been a good competitor." He pauses. "Now, if he'd taken the technology from Applied Materials and gone, I'd have a big problem with that. But I don't have a problem with a good competitor."

Maybe so. But there are many analysts who see Novellus more as a *worrisome* competitor for Applied. "Novellus is very hot right now," Balog says. "It did $65 million last year. And that is $65 million that Applied might have had." McNeilly agrees. "I would have tried harder to hold on to Graham," he says. Nevertheless, the decision had to be made, and whatever his reasons, Morgan made it. "It is almost impossible for CEOs to be completely candid," says Arizona State management professor Mark Pastin. "Not to their boards, not to their underlings, not even to their spouses." The CEO cannot express doubts or ask questions freely. If the company is having trouble with a new product, he cannot go to the board and ask what it thinks he should do. Nor can he go to the division head in charge of the product to express any reservations. If he does, résumés will start flying.

Morgan claims that he has not experienced much trouble in this area because he rarely has any doubts about what to do. "I have never thought of asking the board. My job is to tell them what the right thing to do is," he says.

So how does Morgan know what to do? How does he make the kinds of decisions that have made Applied that rare thing, the truly well-managed company? Ask him and he will say that he just does what's right for the company. For a man of such convictions, life is pretty simple.

By the same token, if you ask him why he wants to run a company like Applied, he'll look perplexed for a second and say it's because he always has. Not for the standard trappings of success. He rides coach on commercial airlines rather than cruise in style aboard a company jet, uses the vending machines in the employee cafeteria rather than take his meals in an executive dining room, works out of a small, modestly appointed (one associate called it "Southwest meets the Orient") office in a manufacturing building rather than any more exalted quarters down some mahogany hallway. His salary is set at the 75th percentile of all the companies in his industry, currently about $350,000 a year, and he receives a bonus if the company reaches certain goals. "That way, you get more, the better you do for the company," he says. Last year's bonus brought his total earnings to over half a million. He plowed most of the money back into company stock.

And while it is conventional for CEOs in more sedate industries to put in a variety of guest appearances on the boards of other corporations, charities, colleges, and cultural groups, Morgan limits himself to those boards where his presence can actually accomplish something rather than merely win him Brownie points for showing up. Because of his near-total identification with the needs and aspirations of Applied, most of his goals are purely business related, but he succumbs to the appeals of an occasional charity. He serves on a board pushing for tort reform in California to reduce the excess lawyering that is one of Morgan's pet peeves about American business. He joined the President's National Advisory Committee on Semiconductors—along with such electronics-industry luminaries as Ian Ross, president of AT&T's Bell Laboratories; Charles Sporck, CEO of National Semiconductor; and Jerry Junkins, chairman of Texas Instruments—to help guide national policy on such major consumer-electronics projects as high-definition television. "That was a 'your country calls' kind of a thing,"

his PR director, Tom Hayes, says almost apologetically. And he serves with Sony Chairman Akio Morita on the Japan-Western Association, designed to foster relationships between Japan and the American West.

Partly, of course, Morgan's low profile is merely the trimmed-down Silicon Valley style. But then, he set out to run something, not rule it. He derives enough satisfaction simply from being in charge. There is also a point to his no-frills style: He wants to reduce the distance between himself and the employees on whom the success of his effort depends. "Too much formality gets in the way of communicating," he says. In large, established companies, one can ascend to the top of some grand tower to take the detached view; in smaller, growing companies, it is essential to stay close to the trenches, to keep abreast—personally—of each day's developments. Morgan often speaks of "porpoising" down into the company to check things out at the lower depths, which means he spends much of his time patrolling the corridors.

And he arranges his schedule around the far-flung time zones of his growing empire—calls to Europe in the morning, calls to Japan at the end of the day. Big as Applied has become, it is important to him to stay close to "the people." He insists on being called Jim by all of his 3,300 employees, and to show that he's no better than they are, he proudly wears a nerdy pin adorned with the letter Q on his lapel to show that he, too, supports the "quality process" he initiated for the company. (Fortunately, he has a sense of humor about his quality mania. At one company get-together, he dressed up as "Quality-man," with a big Q emblazoned on his chest.) In this, his attitude is nearly Japanese, and it flies in the face of the old-style corporate caste system in which the CEO is Louis XIV and the employees are the mob.

PHOTOFEST

Still, one can see some troubles looming as Morgan strains to be involved in every aspect of the business—he even selected the exact shade of blue for the Applied Materials logo. He is usually one of the first ones in the office (thereby obviating any need for a private parking space) and one of the last ones out every day. But there is only so much one man can and should do. As Arizona State's Pastin notes, the best-managed companies are the ones in which the chief executive takes 25 percent of his time to be alone and think. It is hard to see where Morgan is going to get that. At a certain point, some detachment is necessary.

Morgan could step back if he followed his own theory of management. In a perfect world, he says, he would act less like a CEO and his employees more like one. By this he means that he could skip the kingly routine if his employees could learn to operate from the big picture that was once thought to be visible only from the throne in the corner office. His employees should be as attentive to the full range of corporate interests, from sales to technology to manufacturing, as Morgan is. In short, they should increase their awareness and enlarge their vision to the point where it takes in the whole company's perspective, not just their own.

There are many ways to measure how much of his vision Morgan has accomplished at Applied. Sales, for instance, have risen from a few million when he took over to $500 million in 1989 (10 percent of the total semiconductor-equipment market), and the company has set its sights on $1 billion by 1993. He has assembled a leadership team that is the class of the field. But the company's stock price might be the most impressive yardstick (although Morgan thinks the stock should be doing better and spends considerable energy railing about how much, in his words, "it sucks"). Over the last decade, many companies in the semiconductor-equipment industry saw their stock value drop. A half dozen outperformed a passbook-savings account. Only one has beaten the market, and that one is Applied Materials.

Analysts like to cite the different needs of growing companies and mature companies to explain the essential distinction in the managerial styles of CEOs. The younger the company, the brasher the CEO; the older the company, the more "statesmanlike." As Applied closes in on the *Fortune* 500, Morgan talks more about maintaining the essential order of the company so that it can afford to do the "mavericky" things that growing companies have to do. Nowadays, however, a more important factor in dictating a CEO's style than company age may be the global competition (supplemented in many cases by the threat of a takeover) that is hitting many U.S. companies at every stage in their life cycles. As the electronics industry has found, those pressures can have a profound meritocratizing effect on the corporate culture, forcing companies to adopt what they call at Applied a "lean, mean, where-the-rubber-meets-the-road operation." Such companies have no room for hollow crowns.

Actually, the way Morgan sees it, if he did his job perfectly at Applied Materials, he would disappear entirely. He would have instilled the CEO perspective in the corporation, and he could simply dissolve into that porpoise-filled sea. But as it is, he has too many plans. He is thinking of pushing the company into Eastern Europe. He has been following the developments there with considerable interest since he went to the Soviet Union in 1988 with the Young Presidents Organization and sat down with one of the state's chief economists. "It was just like Applied when I first got here," he says. "A disaster." And there's another line of products to bring out. And maybe expanded operations in China. Somebody has to be in charge of all that. ■

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*John Sedgwick is a free-lance writer whose work appears frequently in* GQ *and* Esquire.

# Companies on the Move Are Companies at Risk

*By Dan Rottenberg*

*Expansion means complexity; complexity decay.*
*—C. Northcote Parkinson*

COLUMBIA UNIVERSITY BUSINESS PROFESSOR DONALD Hambrick had just published a scholarly paper based on his continuing study of 30 of the nation's fastest-growing companies. His goal: to separate the stars from the stumblers and provide some guidelines for managers who attempt the dizzying transition from entrepreneurial venture to sprinting middleweight to major corporation. Among the positive role models he cited—this was in 1985—were Apple Computer, People Express Airlines, Cray Research, and Cullinet Software.

*Amid the chaos of 80-hour weeks, confused CEOs lose sight of the strengths that led to their success—and watch their companies tumble.*

The ink on his paper was barely dry before his favored four ran up against one of Parkinson's more perceptive, if lesser-known, laws. The complexities of expansion had quickly sandbagged Cray, devastated Apple, and all but destroyed the other two. Frustrated, Hambrick eventually shelved his project.

His chastening experience is not unique. In their 1982 best-seller, *In Search of Excellence*, Thomas Peters and Robert Waterman Jr. thought they had explained the success of 43 fast-growing American companies. Within a few years, more than one-third of those paragons were floundering. "It almost makes me fatalistic about the inevitability of stumbling," says Hambrick today. "You just can't sustain this sort of growth forever. At some point, something—industry conditions, internal governance—will unravel. The real irony is what a rocky and vulnerable existence fast growth is."

Congratulations to the CEOs of BUSINESS MONTH's Fast 100 growth companies. But hold the celebration to one sliver of cake. Your management job has just begun. Off-the-chart sales growth is so seductive that many managers kid themselves into thinking that a growing company is a thriving company, and the faster the growth the more robust the corporate health. Repeated studies suggest almost the opposite.

A company's welfare and even its survival are most at risk during the periods of its greatest growth. A dramatically growing company must continually expand its plants, find new sources of supply, hire more managers and workers. Bigger rivals try to crash the very market the new company created. The number of decisions to be made mushrooms, and some may never get made. Amid such chaos and the strain of 80-hour weeks, even the best people burn out. Confused CEOs lose sight of the strengths that generated their success in the first place—and their companies tumble. "Lots of small companies can't succeed once they've grown into something more than small companies," says Robert Hansberger, the former CEO at Boise Cascade who is buying up smallish enterprises for his Futura Corp.

Large, established companies whose names pepper the fastest-growing list can stumble, too—but for different reasons. Philip Morris, USAir, and Stone Container, for example, have grown largely through acquisitions. It remains to be seen if those will pay off or go sour, as did so many of the big deals made in the last decade and a half. A large part of the restructuring of America has centered on getting rid of businesses that once appeared to be juicy acquisitions. At best, the acquirers face the problems of melding disparate corporate cultures and imposing big-company standards on smaller concerns. Says Hansberger, "Large companies, accustomed to throwing bureaucracy and money at problems, inevitably have trouble understanding just what it was that made the acquired company successful."

There's no certain protection against the hazards of rapid growth. Experts agree that the dangers can at least be minimized by trying to anticipate them. But following the fortunes of Professor Hambrick's onetime darlings shows that even thoughtful planning may not help. Cray Research founder Seymour Cray brought in professional management early on to guide his company's growth. But the supercomputer company's sales have stagnated, and competition from Japan may hurt Cray in the long term. Seymour Cray now runs a company that was recently spun off from the parent; he's trying to build a supercomputer run by gallium arsenide chips.

People Express, the great but short-lived discount airline success story of the mid-'80s, thought it could get along without big doses of outside management. The company promoted from within—and for a time esprit de corps and profits soared along with passenger volume. But employees who functioned capably in a small-company setting weren't able to control what suddenly became a major-size carrier. A smarter management might have done its employees a good turn by expanding at a less reckless clip, giving them time to learn. People Express was finally merged into Continental Airlines.

Cullinet was one of the early movers in the independent software industry. But in the late '80s, it fell behind in the technology race, and computer users became more inclined to buy database software from hardware giants like IBM rather than independent vendors. Cullinet was swallowed up by Computer Associates International last year, after it had lost money for eight straight quarters.

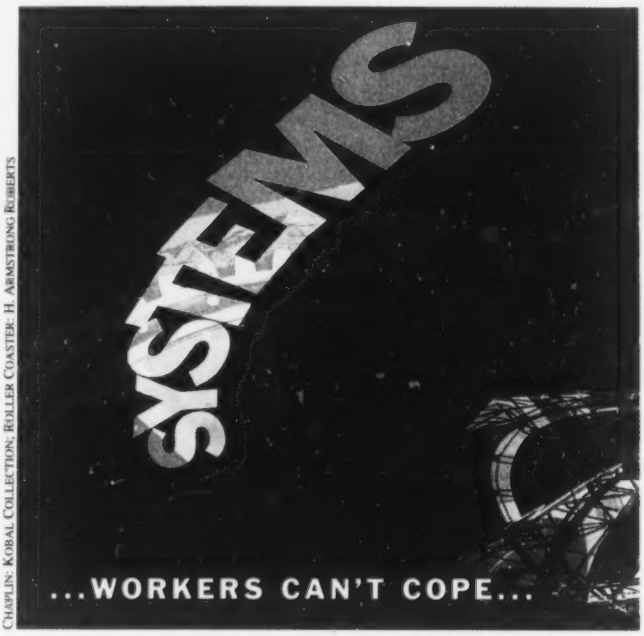
At Apple Computer, cofounder Steve Jobs recognized his pioneering PC company was being torn apart from within by factional rivalries and from without by battles with its dealers. He hired a professional manager, John Sculley of PepsiCo, to smooth things out. Everybody knows what happened to Jobs after that. It was Apple's misfortune that both its founders, Jobs and Steve Wozniak, were tech nerds. Hewlett-Packard, started up two generations earlier, had better luck. David Packard was the visionary responsible for the electronics company's fast growth; William Hewlett was the inside manager who kept the racing craft stable.

Managing fast growth is not a new problem. Entrepreneurs have had trouble keeping pace with explosive growth ever since Henry Ford and William C. Durant. The auto legends neglected to develop management structures and lost touch with their markets. Their companies stagnated until the patriarchs were replaced by administrators with more scientific methods.

Many of todays's fast growers have avoided that mistake by making an early switch to professional managers. Tele-Communications Inc. founder Bob Magness hired John Malone as his president in 1973. Since then TCI has grown from a $92 million-a-year cable-TV operator to the industry's leader, with annual revenues of well over $3 billion—though it is losing money (see story page 42). Three years ago, Reebok's Paul Fireman wanted to sustain his company's momentum by broadening its base from sneakers. He hired as his president C. Joseph LaBonte, the former president of 20th Century-Fox Film Corp. and an acquisition specialist.

Microsoft cofounder Bill Gates has gone through the exercise twice. Seven years ago, he hired Jon A. Shirley from Tandy Corporation to take over his software company's day-to-day management, freeing himself to concentrate on technology and planning. Now Shirley is retiring and will be replaced by Michael Hallman, president of Boeing Computer Services. While they come in with big corporate ideas, Microsoft's managers have tried to maintain the company's small-time spirit. Two years ago, they reorganized into a series of small groups—each responsible for turning a profit.

Effective professional management can be grown from the inside. A half-century ago, IBM founder Thomas J. Watson Sr. insisted that a company should get its leaders from within, but only after training them rigorously so that they were capable of running a fast-growing enterprise. Watson wanted a management team that perceived itself as an elite corps, prepared to handle a much bigger business than IBM was at the time. "If you want to be a big company tomorrow, you have to start acting like one today," he said.



CHAPLIN: KOBAL COLLECTION; ROLLER COASTER: H. ARMSTRONG ROBERTS

Some of today's fast growers have taken Watson's advice to heart. All of Compaq Computer's founders were Texas Instruments veterans who set up major-league systems at their company's inception in 1982. As a result, Compaq hasn't needed to change its accounting system or its management structure since day one—though its annual sales are now nearly $3 billion. (It's interesting that Compaq adopted IBM's theory, since its success is a clone of IBM's own: Compaq moved ahead on its marketing prowess, not its technological skill.)

But there's a subtle difference between thinking big and acting big. Los Angeles consultant Ian Sharlit says a growing company should resist the temptation to expand its overhead at each new spurt in sales. Managers, he says, should hire just enough people to handle the minimum of sales volume suggested by their projections. This might cause some overtime if sales take off, but the company will be "more efficient and there's less risk and less need for financing," he says. Another Sharlit rule of thumb: A smaller company—one with sales of less than $400 million—should not risk more than 30 percent of its net worth on any new product or venture. The bigger the company gets, the less it should risk, the consultant says. A multibillion-dollar-sales company might limit its gamble to 10 percent of its net worth.

Companies that grow by acquisitions can reduce their risks by taking time to digest one deal before jumping into the next. Viacom, Inc., began as a small distributor of TV shows spun off from CBS. It built up that business, which now includes *The Cosby Show* and *Roseanne*, and one step at a time moved into cable-TV systems, television and radio stations, and programming for cable. Viacom's strategy helped it to survive against competitors with deep pockets. Attitude may have helped, too. In 1985 Terrence Elkes, then Viacom CEO, said, "As long as we don't believe our publicity, we'll be okay."

Shrewd CEOs increase their chances of maintaining growth by making sure there is always somebody around to say no. Milton C. Lauenstein, a Gloucester, Massachusetts, consultant, pointed out in a recent *Harvard Business Review* article that growing companies need optimistic, self-confident managers—just the sort of people who are unlikely to subject themselves to diligent examination by their fellow executives. Management experts suggest that fast growers set up devil's-advocacy procedures within their companies to make sure that alternative scenarios are debated. Lauenstein says the companies should also stack their boards with informed, active outside directors who "take a more objective view and exercise appropriate restraint."

The chief executive officer who survives fast growth, says Ian C. MacMillan, director of the Wharton School's Snider Entrepreneurial Center, is one who has "some kind of vision" of what he wants the company to be—and the ability to communicate his goals to other people. That's a bit platitudinous, but MacMillan gets more helpful when he adds that companies should build on their "existing competencies." He even cites an unlikely role model: General Electric. Despite its size and age, GE since 1980 has managed to build five new billion-dollar businesses in such diverse areas as plastics, aerospace, medical diagnostics, and financial services. "They're a lot more entrepreneurial than people think," MacMillan says of GE. "They tend to be good at extending their existing capabilities into new product areas, instead of being suckered into areas where they lack real competence."

GE and others present good models, and management experts give good advice. That will not save some of today's fast-growing companies, however. The sad truth is that a few will self-destruct for no other reason than that they have grown too fast. An ominous note: Twenty-two of the companies on the fastest-growing list lost money in 1989. Generating cash flow is important. Fighting off foreign competition is absolutely necessary. But managing rapid growth may be the toughest job a CEO ever faces.

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*Dan Rottenberg is a Philadelphia-based journalist.*

# Life on the Speedway: Many Faces of Growth

## AN UPSTART'S RITE OF PASSAGE

THE TRUE MEASURE OF A GROWTH COMPANY IS HOW IT REACTS when the inevitable crisis hits. Last summer, Sun Microsystems was veering toward high tech's black hole. The country's leading manufacturer of computer workstations had suddenly gone stupid. It didn't know which of its products were in most demand or how much it had in the bank. Costs seemed out of control; Sun was losing money. At the same time, a pair of key executives bailed out. Sun, which made its reputation by teaching customers how to manage vast amounts of information, couldn't manage itself. Then, just as rapidly, Sun got smart again.

CEO Scott McNealy, who had been off concentrating on research, took full control of day-to-day operations. He began chipping away at the company's Animal House image by hiring experienced managers from the outside. Sun got its in-house computer systems up to date. But most important, the company decided to stop growing so fast. It has pared its product line. Salesmen are being discouraged from pursuing sales of less than $500,000. Executive bonuses are now based on return on assets rather than sales. "People are being held accountable and taken to task if they don't perform," says Austin Mayer, Sun's director of corporate development. "We discovered we can enhance our profitability by slowing down."

That is quite a change for a company that had placed unbridled emphasis on sales growth. Sun was quick to capitalize on the market for workstations, those turbocharged desktop computers that allow heavy-duty users to communicate with mainframes, supercomputers, and one another. But Sun executives were convinced that it wouldn't be long before the computer giants would crash their market—and that they should prepare for that day by building market share at any cost.

The all-out growth philosophy prevailed until last summer. Unable to turn out its new products fast enough, Sun had boosted sales by offering deep discounts on older lines. Sales of the older products then soared beyond expectations, slaughtering profit margins. With its own computer systems in disarray, the company lost control of its inventory. At one point, there was a three-foot stack of sales orders waiting to be entered into a computer. Not knowing what its sales force had sold, Sun was at a loss as to which products to make. Says Mayer, "We had to guess what was in there, and we guessed wrong."

It's surprising that the crunch didn't come sooner. Sun had grown so fast that at one point it was adding 350 new employees and opening a new sales office every month. "It was tough just keeping up with the growth, much less managing or directing it," says Mayer. "We wanted to get market share, and we didn't have time to worry about infrastructure." The result was chaos. Divisions seemed to spring up overnight. Product strategy bubbled up from these autonomous operations with little central planning. Salesmen pulled McNealy out of meetings to help them close deals. Engineers spewed out a stream of innovative but unwieldy workstation options. Sun relied heavily on word of mouth to sell its hot, high-powered machines—it didn't even have an advertising budget until two years ago.

Disorganization seemed normal at a company that held its first board meeting in a McDonald's and where engineers once turned McNealy's office into a golf course, complete with fresh sod, as an April Fool's prank. Hired once to entertain at Sun, comedian Pat Paulsen quickly sensed the corporate spirit. "What's the difference between Sun and the Boy Scouts?" he asked. "The Boy Scouts have adult supervision."

Sun managers still jog at lunchtime. There are still dress-down days and monthly beer bashes. But since last summer's scare, the management style has noticeably toned down. "Informality is fine when you can get all the key players in one room," says Hambrecht & Quist analyst Robert Herwick. "When you have 10,000 employees, it doesn't work. The loosey-goosey guys are gone. They've been replaced by people who have experience in more formal structures."

Sun has changed personalities, but its prospects remain bright. Its market share is 36 percent and growing. The company turned profitable again in the September quarter and is trying to improve earnings even more through cost cutting. Kevin Melia, the new vice president for worldwide operations whom McNealy hired away from Digital Equipment, hopes to squeeze $100 million out of Sun's inventory costs. A more aggressive collection of the company's accounts receivable may yield another $100 million. Sun expects its sales in the year ending June 30 to rise to $2.4 billion, a 33 percent increase. That doesn't begin to compare with the past record. But Sun has wisely opted for a safer flight path.—*Gerald Lubenow*

## TRIALS OF A LONG-TERM THINKER

NO DOUBT ABOUT IT, TELE-COMMUNICATIONS INC. IS THE TITAN of cable television. It's the largest operator of cable systems in the country. TCI and its affiliates account for nearly 25 percent of all cable subscribers. It has a strong presence in cable programming, including a 25 percent interest in Turner Broadcasting System. What's more, TCI's president and CEO, John C. Malone, is cable's leading spokesman. Ken Berents, an analyst with Alex. Brown & Sons in Baltimore, says Malone "is considered the William Paley of our time."

That brings up a question: Did Bill Paley's CBS ever lose $257 million in one year? Malone's TCI did just that in 1989.

Cable-industry experts weren't surprised—or overly concerned—by TCI's huge loss last year, because Malone's strategy is strictly long-term. He wants to borrow big, accumulate assets, and generate cash flow—and worry about profits in 1995 or so. Perhaps any executive who thinks in the long run these days should be applauded. But will his stockholders stick with him? TCI's debt already totals $8 billion, and even the most patient investors may be unwilling to wait until halfway through the decade for a payoff. Especially if they have already owned the stock for a few years.

Malone's fortitude is also being tested by events in Washington. Deregulation of the cable industry in 1986 was quickly followed by a chorus of complaints that the cable monopolies were raising subscribers' rates to exorbitant levels and providing lousy service. The Congressional hoppers are now brimming with bills that would recontrol rates and limit the industry's expansion both horizontally and vertically.

Malone has certainly executed his strategy in a rational manner. He gradually amassed a huge cable empire that operates systems in such markets as Chicago, St. Louis, and Washington, D.C., and has 11 million subscribers. Those revenues have fattened up since deregulation; in the last three years, for exam-

ple, TCI hiked its St. Louis customers' monthly rates from $9.45 to $15.23. But even with those increases, TCI's cable business loses money. That's because the industry is now on a new leg of expansion intended to increase cable's market penetration of American television homes from 50 percent to 70 percent. TCI, like its competitors, is pouring huge sums into the new wiring binge.

TCI has milked its huge subscriber base for more than increased revenues. It has used its large audience as a bargaining chip to get major cable programmers like MTV and ESPN to lower the fees they charge TCI systems for carrying their products. Malone has also used cash flow from his wire systems to take a direct stake in programming. TCI and other cable-system operators invested in Turner Broadcasting when Turner was laden with financial problems. Turner's subsequent recovery made it a good deal. TCI also owns shares in American Movie Classics, Discovery, Black Entertainment, and the Family Channel. Unlike the wire systems, programming is a profitable business.

The threat of reregulation has forced Malone to reverse his programming strategy to some degree. He plans to spin off this operation—except for Turner—into a separate company. He hopes this would satisfy Congressional critics who see a conflict in cross-ownership of wire companies and programmers. The stock price of the spun-off business might rise too, since its profits would no longer be masked by the cable losses. The spin-off doesn't really resolve the cross-ownership question, however, since the programming unit would still be under Malone's sway.

KONG: KOBAL COLLECTION; TRAIN: THE STOCK MARKET

No one knows what, if anything, Congress may do on the reregulation front. But life never runs dull at TCI. And while Malone's management may be controversial, he is willing to risk his own neck for his policies. He and TCI Chairman Bob Magness own 10 percent of the company's stock. At recent prices, that comes to a total investment of nearly $500 million.—*Larry Weber*

## ADRENALINE IN THE RUST BELT

M.A. HANNA. ISN'T THAT THE OLD MINING COMPANY OUT OF Cleveland? Harnischfeger Industries of Milwaukee. Even the name sounds obsolete. Illinois Tool Works. That must have been Chicago's leading company in 1895.

No one expects to see such Rust Belt anachronisms on the list of America's fastest-growing companies. Yet Hanna, Harnischfeger, and ITW are right there with the nifty computer concerns and the hot marketing organizations. It's true they made it on the basis of acquisitions rather than internal growth, but the alternative may have been stagnation or worse.

Hanna is indeed Hanna Mining—but in much different form. In the 1980s it shed *Mining* from its name and sold off most of its money-losing coal and iron operations. CEO Martin (Skip) Walker, recruited from Rockwell International in 1986, then spent $500 million on five acquisitions that put Hanna into an entirely new field: specialty chemicals. Ninety-six percent of the company's sales now come from polymers.

Hanna's transformation proves that even out-of-step companies have hidden strengths. The company was conservative, sure, but that meant it had a strong balance sheet and a solid reputation. Walker put both to use when he floated a $75 million issue of preferred stock within months of his arrival. There has been just one drawback. Says Walker, "You go to a party or a Wall Street meeting and people still say, Oh, you're with Hanna Mining."

Harnischfeger is a 106-year-old maker of power cranes, electric shovels, and other decidedly untrendy mining and construction equipment. Its growth secret was the 1986 acquisition of an even older, more prosaic company: Beloit Corp., a manufacturer of pulp and paper machinery founded in 1858.

The two companies were ideally matched. Both were family controlled and were headquartered just 70 miles from each other. The timing was perfect. Harnischfeger bought Beloit in the midst of a down cycle for the paper industry; today, in an up cycle, Beloit accounts for two-thirds of Harnischfeger's business. "It's the case of two 100-year-old Rust Belt companies that found new life by marrying each other," says Harnischfeger Senior Vice President Richard Schulze. "Together they have the critical mass to do things they couldn't do on their own. As a result, both are well fixed for the 1990s." Harnischfeger hopes that another 1986 acquisition, Syscon Corp., which provides software for the defense industry, will help it ride out slumps in capital goods.

Illinois Tool Works makes engineered industrial components and machines to produce or apply them. It nearly doubled its size in 1986, buying Signode Industries, a packaging company that had long done business with ITW. It grew again last year with the purchase of Ransburg Corp., a manufacturer of electrostatic coating systems.

Fedders Corp., another rusty name, turned itself around not through acquisitions but by getting smaller before it got bigger. The company abandoned its central-air-conditioning business in 1983 to concentrate on room units. While the rest of the industry cut back in room air-conditioning, Fedders expanded. Result: Fedders's share of the North American market jumped from 10 percent in 1985 to today's 30 percent.

The success of some of these Rust Belt companies has come hard. Hanna lost money for five straight years through 1986. Harnischfeger, sandbagged by the capital-goods recession in the early 1980s, showed a meaningful profit in only one of seven years through 1985. Fedders suffered through nine consecutive years of red ink before 1983. The companies' big challenge now is to keep from slipping back into the pit.
—*Dan Rottenberg*

# THE FAST 100

From unknowns like Maxxam Inc. and Trak Auto to household names like Capital Cities/ABC and Wal-Mart, these are America's fastest-growing companies. They are ranked by their average annual sales gains for the past four years. We juxtaposed that with the companies' profit growth in the same period—to separate those that grew with a purpose from those that may have expanded willy-nilly. To make the list, a company had to be publicly held, have been in business for at least five years, and have had posted sales of at least $50 million in 1985. We eliminated foreign corporations, financial companies, leveraged buyouts, subsidiaries, and limited partnerships. The numbers were supplied by Standard & Poor's Compustat Services, Inc.

## AMERICA'S TOP GROWTH COMPANIES

| Rank | Company | Average Annual Sales Growth | 1989 Sales (in millions) | Average Annual Profits Growth | 1989 Profits (in millions) | Industry |
|---|---|---|---|---|---|---|
| 1 | MAXXAM INC. *Los Angeles* | 515.4% | $2,423.3 | NM | $116.8 | *Lumber, aluminum, real estate* |
| 2 | SUN MICROSYSTEMS, INC. *Mountain View, California* | 260.5 | 2,062.5 | 70.2% | 36.1 | *Computer workstations* |
| 3 | MARK IV INDUSTRIES, INC. *Williamsville, New York* | 252.0 | 912.6 | 112.4 | 26.1 | *Audio, industrial equipment* |
| 4 | JWP INC. *Purchase, New York* | 244.6 | 1,741.7 | 127.8 | 38.8 | *Technical office services* |
| 5 | ITEL CORP. *Chicago* | 193.8 | 2,121.1 | NM | 29.9 | *Container leasing* |
| 6 | DART GROUP CORP. *Landover, Maryland* | 151.6 | 902.2 | NA | NA | *Auto parts and book retailer* |
| 7 | HADSON CORP. *Oklahoma City* | 147.7 | 699.6 | NM | -34.9 | *Oil, natural gas* |
| 8 | MEDCO CONTAINMENT SERVICES, INC. *Fair Lawn, New Jersey* | 145.4 | 850.4 | NM | -10.1 | *Mail-order pharmacy* |
| 9 | VISHAY INTERTECHNOLOGY, INC. *Malvern, Pennsylvania* | 127.0 | 415.6 | 25.0 | 17.8 | *Electrical parts* |
| 10 | COMPUTER ASSOC. INT'L. INC. *Garden City, New York* | 125.9 | 1,243.8 | 153.2 | 145.9 | *Computer software* |
| 11 | 3COM CORP. *Santa Clara, California* | 121.2 | 414.0 | 49.6 | 21.4 | *Computer networks* |
| 12 | COSTCO WHOLESALE CORPORATION *Kirkland, Washington* | 111.0 | 3,536.0 | NM | 37.7 | *Warehouse outlets* |
| 13 | SAFEGUARD SCIENTIFICS, INC. *King of Prussia, Pennsylvania* | 110.4 | 383.5 | 23.6 | 7.25 | *Venture capital* |
| 14 | TOWN & COUNTRY CORP. *Chelsea, Massachusetts* | 108.3 | 424.6 | -2.0 | 3.8 | *Jewelry* |
| 15 | SEQUA CORP. *New York* | 100.0 | 1,959.1 | 899.6 | 60.5 | *Jet engine parts* |
| 16 | MAXTOR CORP. *San Jose* | 99.2 | 447.2 | 21.9 | 13.9 | *Computer disk drives* |
| 17 | ANACOMP, INC. *Indianapolis* | 98.8 | 641.0 | 3.4 | 8.7 | *Micrographic systems* |
| 18 | REEBOK INTERNATIONAL LTD. *Canton, Massachusetts* | 98.7 | 1,822.1 | 69.8 | 175.0 | *Athletic shoes* |
| 19 | SEAGATE TECHNOLOGY *Scotts Valley, California* | 98.4 | 1,797.0 | 220.8 | 104.7 | *Computer disk drives* |
| 20 | MICROSOFT CORP. *Redmond, Washington* | 97.2 | 952.8 | 114.9 | 210.5 | *Computer software* |

Most figures for period ended Dec. 1989. Others for periods ended between Sept. 1989 and Feb. 1990. NM, not meaningful (company moved from loss to a profit, for example). NA, not available.

| Rank | Company | Average Annual Sales Growth | 1989 Sales (in millions) | Average Annual Profits Growth | 1989 Profits (in millions) | Industry |
|---|---|---|---|---|---|---|
| 21 | COMPAQ COMPUTER CORP. *Houston* | 94.2% | $2,876.1 | 230.6% | $333.3 | *Personal computers* |
| 22 | THE COMPUTER FACTORY INC. *Elmsford, New York* | 93.0 | 392.3 | -5.5 | 1.2 | *Computer retailer* |
| 23 | BEST BUY CO., INC. *Minneapolis* | 87.0 | 529.5 | -0.3 | 3.2 | *Retailing* |
| 24 | THE PENN TRAFFIC CO. *Johnstown, Pennsylvania* | 86.5 | 2,717.9 | NM | -32.0 | *Food distribution* |
| 25 | TELE-COMMUNICATIONS INC. *Denver* | 84.8 | 3,026.0 | NM | -257.0 | *Cable TV systems, programming* |
| 26 | XL/DATACOMP, INC. *Hinsdale, Illinois* | 82.4 | 365.6 | 67.2 | 22.3 | *Computer distributor* |
| 27 | THE MARCADE GROUP, INC. *New York* | 81.5 | 354.2 | NM | 8.1 | *Clothing* |
| 28 | M.A. HANNA CO. *Cleveland* | 80.1 | 1,109.7 | NM | 86.9 | *Specialty chemicals* |
| 29 | INTERNATIONAL CONTROLS CORP. *Kalamazoo, Michigan* | 77.4 | 698.3 | NM | -8.0 | *Auto parts, truck trailers* |
| 30 | CAPITAL CITIES/ABC, INC. *New York* | 77.1 | 4,957.4 | 48.3 | 485.7 | *Broadcasting, newspapers* |
| 31 | COMCAST CORP. *Philadelphia* | 75.9 | 562.3 | NM | -148.7 | *Cable TV* |
| 32 | BANNER INDUSTRIES, INC. *Beachwood, Ohio* | 75.1 | 630.6 | NM | -2.1 | *Aerospace, industrial manufacturer* |
| 33 | INTERFACE, INC. *La Grange, California* | 74.3 | 581.8 | 41.2 | 24.5 | *Carpet tiles* |
| 34 | GENENTECH, INC. *South San Francisco, California* | 73.9 | 383.2 | 136.8 | 44.0 | *Biotechnology* |
| 35 | DOSKOCIL COMPANIES, INC. *Hutchinson, Kansas* | 73.4 | 485.9 | -0.5 | 2.8 | *Meat products* |
| 36 | INTERNATIONAL LEASE FINANCE CORP. *Beverly Hills* | 67.0 | 343.1 | 55.7 | 71.8 | *Aircraft leasing* |
| 37 | AMES DEPARTMENT STORES, INC. *Rocky Hill, Connecticut* | 66.8 | 5,134.1 | -19.9 | 0.2 | *Discount retailer* |
| 38 | CUC INTERNATIONAL INC. *Stamford, Connecticut* | 66.8 | 365.5 | 37.1 | 8.1 | *Home shopping* |
| 39 | STONE CONTAINER CORP. *Chicago* | 66.7 | 5,329.6 | 1,492.9 | 285.8 | *Packaging* |
| 40 | WAXMAN INDUSTRIES, INC. *Bedford Heights, Ohio* | 66.2 | 372.9 | 49.1 | 8.0 | *Plumbing, electrical supplies* |
| 41 | STRATUS COMPUTER, INC. *Marlborough, Massachusetts* | 65.2 | 341.3 | 62.2 | 35.4 | *Paired computers* |
| 42 | WESTERN DIGITAL CORP. *Irvine, California* | 62.6 | 976.5 | NM | 14.7 | *Semiconductors* |
| 43 | AMERICA WEST AIRLINES, INC. *Phoenix, Arizona* | 62.3 | 993.4 | 21.8 | 12.8 | *Airlines* |
| 44 | EXECUTONE INFORMATION SYSTEMS, INC. *Darien, Connecticut* | 60.6 | 287.5 | NM | -0.6 | *Communications equipment* |
| 45 | LEWIS GALOOB TOYS, INC. *South San Francisco, California* | 59.6 | 227.7 | 3,301.2 | 19.6 | *Toys* |
| 46 | JACOBS ENGINEERING GROUP INC. *Pasadena, California* | 58.9 | 839.8 | 87.9 | 11.5 | *Construction* |
| 47 | THE HOME DEPOT, INC. *Atlanta* | 58.7 | 2,758.5 | 252.4 | 111.9 | *Building materials retailer* |
| 48 | KAUFMAN & BROAD HOME CORP. *Los Angeles* | 58.5 | 1,401.5 | 50.6 | 83.2 | *Home building* |
| 49 | LSI LOGIC CORP. *Milpitas, California* | 58.1 | 546.9 | NM | -24.9 | *Integrated circuits* |
| 50 | J.B. HUNT TRANSPORT SERVICES, INC. *Lowell, Arkansas* | 57.5 | 509.3 | 17.5 | 30.6 | *Trucking* |
| 51 | HARNISCHFEGER INDUSTRIES, INC. *Brookfield, Wisconsin* | 56.6 | 1,583.6 | 36.4 | 59.3 | *Mining, paper machinery* |
| 52 | BUSINESSLAND, INC. *San Jose* | 54.5 | 1,306.7 | 103.7 | 17.9 | *Computer workstation distributor* |
| 53 | KING WORLD PRODUCTIONS, INC. *Short Hills, New Jersey* | 53.4 | 428.3 | 82.6 | 78.3 | *TV program distributor* |
| 54 | VLSI TECHNOLOGY, INC. *San Jose* | 53.3 | 288.5 | 612.5 | 0.5 | *Integrated circuits* |
| 55 | ILLINOIS TOOL WORKS INC. *Chicago* | 52.9 | 2,172.7 | 83.9 | 163.8 | *Industrial parts and systems* |
| 56 | ENVIROSOURCE, INC. *Stamford, Connecticut* | 52.1 | 246.8 | NM | -29.8 | *Waste handling* |
| 57 | ISS INTERNATIONAL SERVICE SYSTEM, INC. *New York* | 51.9 | 493.6 | NM | 4.1 | *Maintenance services* |
| 58 | CENTURY COMMUNICATIONS *New Canaan, Connecticut* | 51.7 | 207.6 | NM | -56.3 | *Cable TV, cellular phones* |
| 59 | TONKA COR *Minnetonka, Minnesota* | 51.2 | 870.5 | -12.1 | 7.7 | *Toys and games* |
| 60 | USAIR GROUP INC. *Arlington, Virginia* | 50.8 | 6,251.6 | NM | -63.2 | *Airlines* |

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| Rank | Company | Average Annual Sales Growth | 1980 Sales (in millions) | Average Annual Profits Growth | 1989 Profits (in millions) | Industry |
|---|---|---|---|---|---|---|
| 61 | FEDDERS CORP. *Peapack, New Jersey* | 50.8% | $367.6 | 146.4% | $22.1 | *Room air conditioners* |
| 62 | SUDBURY, INC. *Cleveland* | 50.7 | 512.5 | NM | -6.4 | *Industrial parts, lubricants* |
| 63 | MGM/UA COMMUNICATIONS CO. *Beverly Hills* | 49.6 | 917.7 | NM | -38.8 | *Movies, TV programs* |
| 64 | TEXAS AIR CORP. *Houston* | 48.8 | 6,684.9 | NM | -885.6 | *Airlines* |
| 65 | HUDSON FOODS, INC. *Rogers, Arizona* | 47.7 | 633.8 | 21.7 | 21.3 | *Food products* |
| 66 | APPLIED MATERIALS, INC. *Santa Clara* | 46.7 | 534.0 | 146.1 | 49.1 | *Computer-chip equipment* |
| 67 | PHILIP MORRIS COMPANIES INC. *New York* | 46.6 | 40,439.0 | 26.9 | 2,946.0 | *Consumer products* |
| 68 | APL CORP. *Miami Beach, Florida* | 46.5 | 889.6 | NM | -33.8 | *Plastic, aluminum products* |
| 69 | CHILI'S, INC. *Dallas* | 45.9 | 313.6 | 52.0 | 16.5 | *Restaurants* |
| 70 | SALANT CORP. *New York* | 45.0 | 469.6 | NM | -9.3 | *Clothing* |
| 71 | TYCO LABORATORIES, INC. *Exeter, New Hampshire* | 45.0 | 2,100.1 | 52.6 | 104.7 | *Fire-protection systems* |
| 72 | MICROPOLIS CORP. *Chatsworth, California* | 44.8 | 307.3 | NM | -49.8 | *Computer disk drives* |
| 73 | VIACOM INC. *Dedham, Massachusetts* | 44.7 | 1,436.2 | 50.8 | 131.1 | *TV programming* |
| 74 | NEWELL CO. *Freeport, Illinois* | 44.2 | 1,122.9 | 70.6 | 85.4 | *Housewares, hardware items* |
| 75 | FURON CO. *Laguna Niguel, California* | 43.9 | 332.3 | 16.9 | 10.3 | *Polymer products* |
| 76 | BAXTER INTERNATIONAL INC. *Deerfield, Illinois* | 43.0 | 7,399.0 | 55.6 | 446.0 | *Hospital supplies* |
| 77 | CIRCUIT CITY STORES, INC. *Richmond, Virginia* | 42.8 | 1,969.0 | 55.4 | 72.4 | *Electronics retailer* |
| 78 | MARION MERRELL DOW INC. *Kansas City, Missouri* | 42.7 | 1,077.8 | 0.0 | 46.3 | *Pharmaceuticals* |
| 79 | WYSE TECHNOLOGY, INC. *San Jose* | 41.8 | 449.1 | NM | -21.2 | *Computers* |
| 80 | J.P. INDUSTRIES INC. *Ann Arbor, Michigan* | 41.2 | 408.0 | 18.8 | 12.4 | *Engine parts* |
| 81 | ANTHEM ELECTRONICS, INC. *San Jose* | 41 2 | 319.0 | 80.4 | 15.8 | *Electronics distributor* |
|  | WAL-MART STORES, INC. *Bentonville, Arkansas* | 41.1 | 25,810.6 | 45.7 | 1,075.9 | *Discount retailer* |
| 83 | PHELPS DODGE CORP. *Phoenix* | 40.9 | 2,699.6 | 262.5 | 267.0 | *Copper* |
| 84 | PLY GEM INDUSTRIES, INC. *New York* | 40.9 | 506.8 | 28.4 | 10.1 | *Home-improvement products* |
| 85 | NATIONAL INTERGROUP, INC. *Pittsburgh* | 40.9 | 3,008.5 | NM | -2.6 | *Wholesale pharmaceuticals* |
| 86 | REGAL-BELOIT CORP. *South Beloit, Illinois* | 40.4 | 167.4 | 47.7 | 11.5 | *Tools, power transmissions* |
| 87 | UTILICORP UNITED, INC. *Kansas City, Missouri* | 40.2 | 731.9 | 16.0 | 48.3 | *Gas and electric utility* |
| 88 | TURNER BROADCASTING SYSTEM, INC. *Atlanta* | 40.1 | 1,058.6 | 11.9 | 27.6 | *Cable TV programming* |
| 89 | EXCEL INDUSTRIES, INC. *Elkhart, Indiana* | 40.1 | 277.1 | 36.2 | 7.62 | *Vehicle windows* |
| 90 | UDC-UNIVERSAL DEVELOPMENT L.P *Tempe, Arizona* | 39.2 | 417.2 | 31.2 | 51.4 | *Home building* |
| 91 | ICN PHARMACEUTICALS, INC. *Costa Mesa, California* | 39.1 | 185.5 | NM | -86.7 | *Biomedical, pharmaceutical* |
| 92 | STONERIDGE RESOURCES, INC. *Bloomfield Hills, Michigan* | 39.0 | 156.8 | NM | -6.1 | *Natural resources* |
| 93 | EXPEDITORS INTERNATIONAL OF WASHINGTON, INC. *Seattle* | 38.6 | 193.6 | 43.9 | 9.2 | *Freight forwarding* |
| 94 | PANSOPHIC SYSTEMS, INC. *Lisle, Illinois* | 38.1 | 232.0 | 9.0 | 19.8 | *Computer software* |
| 95 | ARCHIVE CORP. *Costa Mesa, California* | 37.1 | 192.5 | 133.9 | 15.6 | *Computer tape drives* |
| 96 | THE RYLAND GROUP, INC. *Columbia, Maryland* | 36.4 | 1,402.1 | 35.0 | 44.0 | *Home building* |
| 97 | AST RESEARCH, INC. *Irvine, California* | 36.4 | 482.0 | -12.2 | 11.4 | *Personal computers* |
| 98 | TRAK AUTO *Landover, Massachusetts* | 36.3 | 275.8 | NA | NA | *Retail auto parts* |
| 99 | MASCO INDUSTRIES, INC. *Taylor, Michigan* | 36.3 | 1,686.6 | 301.4 | 46.6 | *Power train automotive parts* |
| 100 | NATIONAL PIZZA CO. *Pittsburg, Kansas* | 35.9 | 170.5 | 30.0 | 13.4 | *Fast-food franchises* |

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